

ABSTRACT OF THE DISCLOSURE

A first ground-plane portion, on which an antenna element is disposed, is arranged above a second ground-plane portion with a predetermined distance therebetween. The first ground-plane portion operates as a parasitic antenna. The antenna element includes a dielectric substrate, a patch electrode provided on the top surface of the dielectric substrate, a ground electrode provided on substantially the entire bottom surface of the dielectric substrate, and current-feed pins that extend through the dielectric substrate and that are connected to the patch electrode. The first ground plane is defined by a conductor layer, which is provided on the top surface of a circuit board. The size of the ground-plane portion and the height of a support are appropriately set so that the first ground-plane portion is excited at a frequency that is substantially equal to a frequency at which the patch electrode is excited when current is fed.